Hees: Heavy Quark Thermalization

Non-photonic electron v_2 from charm decays – indicates fast charm thermalization

Assumes meson-like resonances can exist in QGP up to $2T_c$

Compares scattering of charm quarks off light quarks through a D resonance state to elastic $cq \to cq$ and $cg \to cg$ scattering in medium with LO pQCD matrix elements with screening mass regulator

Both evolved in time using Fokker-Planck equation with soft scatterings

Diffusion and drag coefficients factor of 3 bigger for resonant interactions, thus faster thermalization

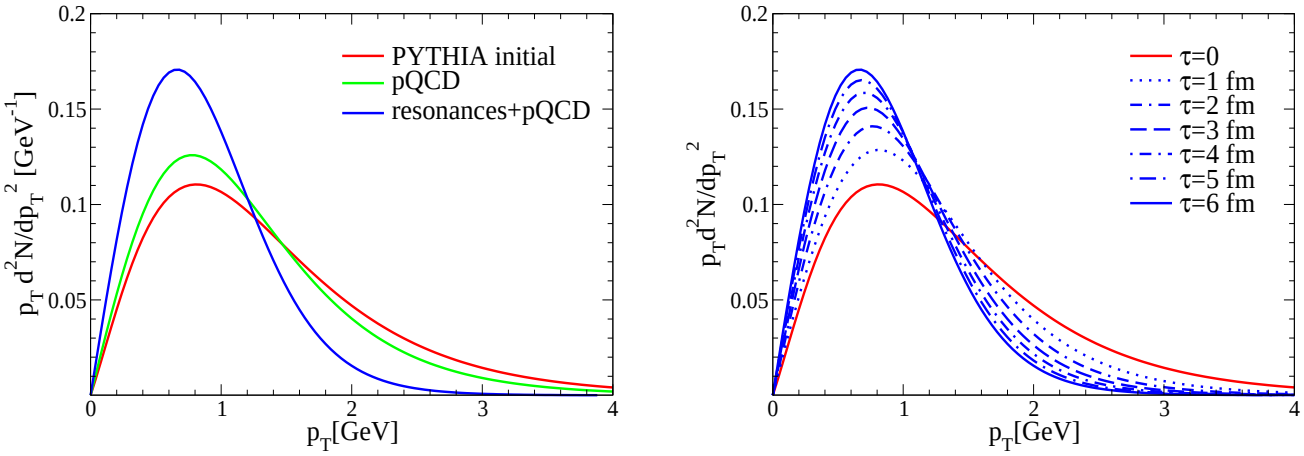

Figure 1: (Left) Initial charm distribution from PYTHIA, compared to evolution of pQCD and resonance scattering after 6 fm. The pQCD result is little changed while the resonances are close to Maxwell distribution with $T_{\rm eff} = 290$ MeV. (Right) Shows evolution with time for resonances from initial spectrum.